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Substitute for Form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	Not Yet Assigned
				Filing Date	Herewith
				First Named Inventor	Daniel E. Grupp
				Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned				
Attorney Docket Number	003771.P001D				
U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		us- 4,631,352	12/23/1986	Daud et al	
		us- 4,675,711	8/23/1987	Harder et al	
		us- 4,751,563	6/14/1988	Labowitz et al	
		us- 4,837,804	6/6/1989	Faris	
		us- 4,935,804	6/19/1990	Ito et al	
		us- 5,019,530	5/28/1991	Kleinsasser et al.	
		us- 5,258,625	11/2/1993	Kamohara et al.	
		us- 5,291,274	3/1/1994	Tamura	
		us- 5,401,980	3/28/1995	Fang et al.	
		us- 5,422,496	6/6/1995	Kamohara et al	

FOREIGN PATENT DOCUMENTS						
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Sheet	2	003771 P001D	2	Attorney Docket Number	003771 P001D
NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T ²
		P. Hadley, "Single-Electron Tunneling Devices", <u>TMR Programme Certosa di Pontignano (SI)</u> , 7/20, September 1997, 1-15			
		Haroon Ahmed, Kazuo Nakazato, "Single-Electron Devices", <u>Microelectronic Engineering 32</u> , (1996), pp 297-315			
		John Randall et al., "Potential Nanoelectronic Integrated Circuit Technologies", <u>Microelectronic Engineering 32</u> , (1996) pp 15-30			
		Bogdan, Majkusiak, "Experimental and Theoretical Study of the Current-Voltage Characteristics of the MISIM Tunnel Transistor", IEEE Transactions on Electron Devices vol 45 No. 9 (Sep. 1998) pp. 1903-1911			
		C A Mead, "Operation of Tunnel-Emission Devices", Journal of Applied Physics, Vo 32, No 4 (Apr. 1959)			

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		US- 5,475,341	12/12/1995	Reed	
		US- 5,589,692	12/31/1996	Reed	
		US- 5,604,154	2/18/1997	Takahashi et al	
		US- 5,612,233	3/18/1997	Roesner et al.	
		US- 5,646,420	7/8/1997	Yamashita	
		US- 5,646,559	7/8/1997	Higurashi	
		US- 5,665,979	9/9/1997	Takahashi et al	
		US- 5,677,637	10/14/1997	Nakazato et al.	
		US- 5,705,827	1/6/1998	Baba et al	
		US- 5,710,051	1/20/1998	Park et al	

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		Y. Takahashi et al., "Fabrication Technique for Si Single-Electron Transistor Operating at Room Temperature", IEEE Electronics Letters Online No. 19950063 vol. 31 No. 2, (Jan. 19, 1995) pp. 136-137			
		Kazuo Nakazato and Haroon Ahmed, "Enhancement of Coulomb blockade in Semiconductor Tunnel Junctions", Appl. Phys. Lett., (Mar. 21, 1995) pp. 3170-3172			
		R. H. Davis and H.H. Hosack, "Double Barrier in Thin-Film Triodes", Journal of Applied Physics, vol. 34, No. 4 (Part 1), (4/63) pp. 864-866			
		Kiyonori Kato, "Liquid helium Level Meter by Audio-Sound Detection", Rev. Sci. Instrum (60/7), (7/89) pp. 1343-1345			
		E. Tosatti and R. Martonak, "Rotational Melting in Displacive Quantum Paraelectrics", Solid State Communications, vol. 92, Nos. 1-2 (1984) pp. 167-180			
/Long Pham/					
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U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ¹ Kind Code ² (if known)			
		US-	5,731,598	3/24/1998	Kado et al.	
		US-	5,754,077	5/19/1998	Ohata et al.	
		US-	5,834,793	11/10/1998	Shibata	
		US-	3,116,427	12/13/1963	Gkaever	
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FOREIGN PATENT DOCUMENTS							
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		Hiroyuki Sakaki, "Quantum Microstructure Devices", <u>Solid State Communication</u> , vol 92, Nos. 1-2, (1994) pp 119-127			
		M A Reed et al, "Realization of a Three-Terminal Resonant Tunneling Device The Bipolar Quantum Resonant Tunneling Transistor" App Phys Lett (11) (Mar. 12, 1989) pp. 1034-1036			
		R J Schoelkopf et al, "The RF-SET. A Fast and Ultra-Sensitive Electrometer". Submitted to Science, (12/11/97) pp. 1-6			
		Federico Capaso et al, "Multiple Negative Transconductors and Differential Conductance in a Bipolar Transistor by Sequential Quenching of Resonant Tunneling" App Phys Lett 53 (12) (19 Sep 1988) pp 1056-1058			
		J.L. Huber et al., "An RTD/Transistor Switching Block and its Possible Application in Binary and Ternary Adders", <u>IEEE Transaction of Electron Devices</u> , vol 44 No 12 (12/97) pp 2149-2153			
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		Robert F. Service, "Microelectronics" "IBM Puts Fast Chips on a New Footing", <u>Science</u> , vol. 281, (Aug. 14, 1998) pp. 893-894			
		David Berman et al, "Single-Electron Transistor Research", <u>http://nanowed.mit.edu/annual-report/14</u> , (downloaded 10/7/98), pp. 1-4			
		Mikko Paalanen, "Nanophysics-A New Frontier of Science", <u>http://www.edita.fi/lehdet/polysteekki/297/nanop.html</u> , (downloaded 10/7/98) pp 1-5			
		Steven P. Beaumont, "III-V Nanoelectronics", <u>Elsevier Science B.V., Microelectronic Engineering 32</u> , (1996) pp. 283-295			
		P.K. Vasudev and P.M. Seltzoff, "Si-ULSI with a Scaled-Down Future", <u>IEEE Circuits & Devices</u> , (1998), pp. 19-29			
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FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ^o
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				Application Number	Not Yet Assigned
				Filing Date	Herewith
				First Named Inventor:	Daniel E. Grupp
				Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned				
Attorney Docket Number	003771 P001D				
Sheet	2	003771 P001D	2		
NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T ²
		S J Wind et al., "Scaling Silicon MOS Device to Their Limits", <u>Elsevier Microelectronic Engineering</u> 32, (1996) pp. 271-282			
		Naoki Yokoyama et al., "A New Functional Resonant-Tunneling Hot Electron Transistor (RHET)", <u>Japanese Journal of Applied Physics</u> , vol. 24 No. 11 (11/85) pp. 1853-1854			
		Victor Ryzhii et al., "Resonant-Tunneling Bipolar Transistors with a Quantum-Well Base", <u>Japanese Journal Applied Physics</u> , vol. 35 No. 10 (10/96) pp. 5280-5283			
		Serge Luryi and Federico Capasso, "Resonant Tunneling of Two-Dimensional Electrons Through a Quantum Wire: A Negative Transconductors Device" <u>Appl Phys Lett</u> 47 (12) (Dec. 15, 1985) pp. 1347-1349			
		J R Schreffer, "Symmetry of the Order Parameter in High Temperature Superconductors", <u>Solid State Communications</u> , vol 92, Nos 1-2 (1994) pp. 129-139			
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				Filing Date	Herewith	
				First Named Inventor:	Daniel E. Grupp	
				Art Unit	Not Yet Assigned	
				Examiner Name	Not Yet Assigned	
Sheet	1	of	2	Attorney Docket Number	003771.P001D	
U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
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				First Named Inventor	Daniel E. Grupp
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				Examiner Name	Not Yet Assigned
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		Federico Capasso and Richard A. Kiehl, "Resonant Tunneling Transistor with Quantum Well Base and High-Energy Injection: A New Negative Differential Resistance Device" J Appl Phys 58 (3) (Aug. 1, 1985) pp. 1368-1367			
		A C. Seabaugh et al., "Resonant Transmission in the Base/Collector Junction of a Bipolar Quantum-Well Resonant-Tunneling Transistor" App Phys Lett 59 (26) (23 Dec 1991) pp. 3413-3415			
		Ming C. Wu et al., "Quantum-Switched Heterojunction Bistable Bipolar Transistor by Chemical Beam Epitaxy", Appl. Phys. Lett. 57 (2) (Jul. 9, 1990) pp. 150-152			
		Alan C. Seabaugh et al., "Pseudomorphic Bipolar Quantum Resonant-Tunneling Transistor", IEEE Transactions on Electron Devices, vol. 36, No. 10 (10/89) pp. 2327-2334			
		D. Ali and H. Ahmed, "Coulomb Blockade in a Silicon Tunnel Junction Device", Appl. Phys. Lett. 64 (16), (18 Apr 1994), pp. 2119-2120			

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